Jenkins

Automation Server

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I am here because i love knowledge sharing.

What is Jenkins

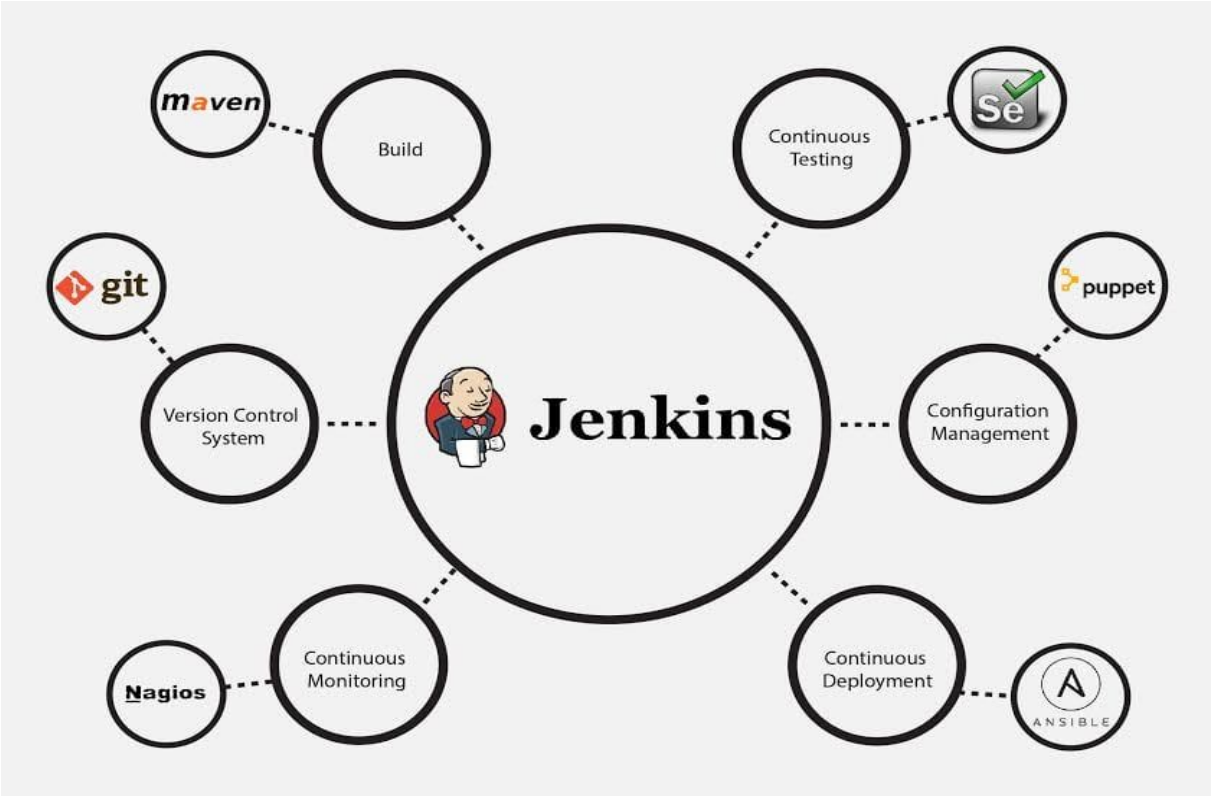
Jenkins is the **leading** open source **automation server**. It helps automate the parts of software development related to building, testing, and deploying, facilitating continuous integration and continuous delivery. It is a **server-based system** that runs in servlet (written in java) containers such as Apache Tomcat.

It also allows you to integrate with a large number of testing and deployment technologies.

With Jenkins, organizations can accelerate the software development process through automation.

Jenkins achieves Continuous Integration with the help of plugins. Plugins allow the integration of Various DevOps stages. If you want to integrate a particular tool, you need to install the plugins for that tool. For example Git, Maven 2 project, Amazon EC2, HTML publisher etc.

Jenkins is integration with various DevOps stages



History

Developed in **2004.** The Jenkins project was originally named **Hudson**, and was **renamed in 2011** after a dispute with Oracle,

Jenkins development is now managed as an open source project under the governance of the CD Foundation, an organization within the Linux Foundation.

Advantages

- It is easy to install.
- It is an open-source tool
- Great community support.
- It has 1000+ plugins to ease your work.
- you can code your plugin and share it with the community.
- It is free of cost.
- It is built with Java and hence, it is portable to all the major platforms.

AWESOME FACTS

Jenkins is widespread, with more than 147,000 active installations and over 1 million users around the world.

Jenkins is interconnected with well over 1,000 plugins that allow it to integrate with most of the development, testing and deployment tools.

Before and After Jenkins

Before Jenkins	After Jenkins
The entire source code was built and then tested. Locating and fixing bugs in the event of build and test failure was difficult and time-consuming, which in turn slows the software delivery process.	Every commit made in the source code is built and tested. So, instead of checking the entire source code developers only need to focus on a particular commit. This leads to frequent new software releases.
Developers have to wait for test results	Developers know the test result of every commit made in the source code on the run.
The whole process is manual	You only need to commit changes to the source code and Jenkins will automate the rest of the process for you.

How Jenkins works

Jenkins runs as a server on a variety of platforms including Windows, MacOS, Unix variants and especially, Linux. It requires a Java 8 VM and above and can be run on the Oracle JRE or OpenJDK. Usually, Jenkins runs as a Java servlet within a Jetty application server. It can be run on other Java application servers such as Apache Tomcat. More recently, Jenkins has been adapted to run in a Docker container. There are read-only Jenkins images available in the Docker Hub online repository.

To operate Jenkins, pipelines are created. A pipeline is a series of steps the Jenkins server will take to perform the required tasks of the CI/CD process. These are stored in a plain text Jenkinsfile. The Jenkinsfile uses a curly bracket syntax that looks similar to JSON. Steps in the pipeline are declared as commands with parameters and encapsulated in curly brackets. The Jenkins server then reads the Jenkinsfile and executes its commands, pushing the code down the pipeline from committed source code to production runtime. A Jenkinsfile can be created through a GUI or by writing code directly.

Why Jenkins?

Jenkins is one of the top DevOps tools because it is free, open-source and modular, and can integrate with pretty much every other DevOps tool out there. There are over a thousand plugins that you can use to extend Jenkins' capabilities and make it more user-specific. All of these plugins and extensions are developed in Java. This means that Jenkins can also be installed on any operating system that runs on Java.

Download link:-
https://www.jenkins.io/download/

Docs/Tutorial:-
https://www.jenkins.io/doc/book/

Thank you!

DevOps Engineer likes to play with technology!

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